PHYSICAL REVIEW E

For editorial and subscription correspondence, please see inside front cover
(ISSN: 1063-651X)

PERIODICALS
Postmaster send address changes to:
American Institute of Physics
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 65, NUMBER 4
PARTS 1, 2A, AND 2B

CONTENTS

APRIL 2002

The Table of Contents is a total listing of Parts 1, 2A, and 2B.
Part 2A consists of pages 045101(R)–046237, and Part 2B pages 046301–049902.

Announcement: Change in Printing Schedule to Synchronize Online and Print Journals i

PART 1

RAPID COMMUNICATIONS

Statistical physics of soft matter

Spatiotemporal coherence resonance of phase synchronization in weakly coupled chaotic oscillators *(4 pages)* . . . . . 040101(R)
Changsong Zhou and Jürgen Kurths

Granular materials

Driven inelastic Maxwell models with high energy tails *(4 pages)* . . . . . 040301(R)
M. H. Ernst and R. Brito

Structured and complex fluids

Rotational dynamics of hydration water in dicalcium silicate by quasielastic neutron scattering *(4 pages)* . . . . 040501(R)
A. Faraone, S.-H. Chen, E. Fratini, P. Baglioni, L. Liu, and C. Brown

Liquid crystals

Observation of the soft-mode condensation in the Sm-A–Sm-C_α^* phase transition by nonlinear dielectric spectroscopy *(4 pages)* . . . . . 040701(R)
Hiroshi Orihara, Andika Fajar, and Valéry Bourny

Biological physics

Statistics of selectively neutral genetic variation *(4 pages)* . . . . . 040901(R)
A. Eriksson, B. Haubold, and B. Mehlig

DNA hybridization to mismatched templates: A chip study *(4 pages)* . . . . . 040902(R)
Felix Naef, Daniel A. Lim, Nila Patil, and Marcelo Magnasco

Copyright 2002 by The American Physical Society

(Continued)

1063-651X(200204)65:4:2:A;1-X

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Role of body rotation in bacterial flagellar bundling *(4 pages)* . . . . . 040903(R)
Thomas R. Powers

REGULAR ARTICLES

Statistical physics of soft matter

Random walk with memory enhancement and decay *(5 pages)* 041101
Zhi-Jie Tan, Xian-Wu Zou, Sheng-You Huang, Wei Zhang, and Zhun-Zhi Jin
Persistence of a continuous stochastic process with discrete-time sampling: Non-Markov processes *(13 pages)* 041102
George C. M. A. Ehrhardt, Alan J. Bray, and Satya N. Majumdar
Stochastic solution of space-time fractional diffusion equations *(4 pages)* 041103
Mark M. Meerschaert, David A. Benson, Hans-Peter Scheffler, and Boris Baeumer
Diffusion of a nearly spherical deformable body in a randomly stirred host fluid *(8 pages)* 041104
Moshe Schwartz and Gad Frenkel
Coherence resonance versus synchronization in a periodically forced self-sustained system *(4 pages)* 041105
A. G. Balanov, N. B. Janson, D. E. Postnov, and P. V. E. McClintock
Potential energy landscape and mechanisms of diffusion in liquids *(9 pages)* 041106
T. Keyes and J. Chowdhary
Effect of nonstationarities on detrended fluctuation analysis *(15 pages)* 041107
Zhi Chen, Plamen Ch. Ivanov, Kun Hu, and H. Eugene Stanley
Nonlinear anomalous diffusion equation and fractal dimension: Exact generalized Gaussian solution *(6 pages)* 041108
I. T. Pedron, R. S. Mendes, L. C. Malacarne, and E. K. Lenzi
Dispersal probability distributions and the wave-front speed problem *(6 pages)* 041109
Vicenç Méndez, Toni Pujol, and Joaquim Fort
Deterministic ratchets: Route to diffusive transport *(5 pages)* 041110
M. Borromeo, G. Costantini, and F. Marchesoni

Equilibrium and linear transport properties of fluids

Effects of ionization in single-bubble sonoluminescence *(12 pages)* 041201
C. Y. Ho, L. Yuan, M.-C. Chu, P. T. Leung, and W. Wei
Evaluation of effective ion-ion potentials in aqueous electrolytes *(6 pages)* 041202
Alexander P. Lyubartsev and Stjepan Marčelja
Force evaluation in the lattice Boltzmann method involving curved geometry *(14 pages)* 041203
Renwei Mei, Dazhi Yu, Wei Shyy, and Li-Shi Luo
Heat transfer in the transition regime: Solution of boundary value problems for Grad's moment equations via kinetic schemes *(16 pages)* 041204
Henning Struchtrup
Dynamics and configurational entropy in the Lewis-Wahnström model for supercooled orthoterphenyl *(13 pages)* 041205
S. Mossa, E. La Nave, H. E. Stanley, C. Donati, F. Sciortino, and P. Tartaglia

Granular materials

Frictional properties of bidisperse granular matter: Effect of mixing ratio *(5 pages)* 041301
J.-C. Géminard and W. Losert
Voronoi tessellation of the packing of fine uniform spheres *(8 pages)* 041302
R. Y. Yang, R. P. Zou, and A. B. Yu

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Thermodynamic limit in the elastic triangle: Padé approximants *(12 pages)* 041303
A. H. Opie and J. Grindlay

Colloidal dispersions, suspensions, and aggregates

Time evolution of dynamic shear moduli in a physical gelation process of 1,3:2,4-bis-O-(*p*-methylbenzylidene)-D-sorbitol in polystyrene melt: Critical exponent and gel strength *(7 pages)* 041401
Mikihito Takenaka, Toshiaki Kobayashi, Takeji Hashimoto, and Masaoki Takahashi

Transport of solutes undergoing a Freundlich type nonlinear and nonequilibrium adsorption process *(9 pages)* 041402
Uwe Jaekel and Harry Vereecken

Dangling bond deflection model: Growth of gel network with loop structure *(10 pages)* 041403
Hang-Shing Ma, Rémi Jullien, and George W. Scherer

Dynamic light scattering from colloidal fractal monolayers *(5 pages)* 041404
Pietro Cicuta and Ian Hopkinson

Nature of the divergence in low shear viscosity of colloidal hard-sphere dispersions *(8 pages)* 041405
Zhengdong Cheng, Jixiang Zhu, Paul M. Chaikin, See-Eng Phan, and William B. Russel

Structured and complex fluids

Self-assembling morphology induced by nanoscale rods in a phase-separating mixture *(8 pages)* 041501
Kang Chen and Yu-qiang Ma

Transitions between inherent structures in water *(6 pages)* 041502
Nicolas Giovambattista, Francis W. Starr, Francesco Sciortino, Sergey V. Buldyrev, and H. Eugene Stanley

Idealized glass transitions for a system of dumbbell molecules *(17 pages)* 041503
S.-H. Chong and W. Götze

Spatially resolved microrheology using localized coherence volumes *(8 pages)* 041504
G. Popescu, A. Dogariu, and R. Rajagopalan

Normal stresses at the gelation transition *(6 pages)* 041505
Kurt Broderix, Peter Müller, and Annette Zippelius

Model for the rotational contribution to quasielastic neutron scattering spectra from supercooled water *(8 pages)* 041506
Li Liu, Antonio Faraone, and Sow-Hsin Chen

Ion-exchange funneling in thin-film coating modification of heterogeneous electrodialysis membranes *(10 pages)* 041507
Isaak Rubinstein, Boris Zaltzman, and Tamara Pundik

Anisotropic ordering in sheared binary fluids with viscous asymmetry: Experiment and computer simulation *(7 pages)* 041508
H. S. Jeon, Z. Shou, A. Chakrabarti, and E. K. Hobbie

Films, interfaces, and crystal growth

Statistical substantiation of the van der Waals theory of inhomogeneous fluids *(16 pages)* 041601
V. G. Baidakov, S. P. Protsenko, G. G. Chernykh, and G. Sh. Boltachev

Decoration lattices of colloids adsorbed on stripe-patterned substrates *(8 pages)* 041602
H. M. Harreis, M. Schmidt, and H. Löwen

Cavitation of Langmuir monolayers *(11 pages)* 041603
Z. Khattari, E. Hatta, P. Heinig, P. Steffen, Th. M. Fischer, and R. Bruinsma

Singular self-preserving regimes of coagulation processes *(12 pages)* 041604
A. A. Lushnikov and M. Kulmala

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Measuring kinetic coefficients by molecular dynamics simulation of zone melting *(7 pages)* 041605
Franck Celestini and Jean-Marc Debierre
Interface relaxation in electrophoretic deposition of polymer chains: Effects of segmental dynamics, molecular weight, and field *(4 pages)* 041606
Frank W. Bentrem, Jun Xie, and R. B. Pandey
Experimental investigation of the initial regime in fingering electrodeposition: Dispersion relation and velocity measurements *(10 pages)* 041607
Matthias Schröter, Klaus Kassner, Ingo Rehberg, Josep Claret, and Francesc Sagués
Stability analysis of branched silver electrodeposits: Solid phase growth under a marginally stable regime *(5 pages)* 041608
M. A. Pasquale, S. L. Marchiano, P. L. Schilardi, R. C. Salvarezza, and A. J. Arvia
Relaxation of particles in the sloped region in a conserved growth model *(5 pages)* 041609
Yup Kim and S. Y. Yoon

Liquid crystals

Complex dynamics of isotropic 4-cyano-4-*n*-pentylbiphenyl (5CB) in linear and nonlinear dielectric relaxation studies *(9 pages)* 041701
A. Drozd-Rzoska and S. J. Rzoska
Defect structures and torque on an elongated colloidal particle immersed in a liquid crystal host *(7 pages)* 041702
Denis Andrienko, Michael P. Allen, Gregor Skačej, and Slobodan Žumer
Behavior of mesogenic molecules deposited at the alumina-air interface: A deuteron NMR study *(16 pages)* 041703
Boštjan Zalar, Robert Blinc, Slobodan Žumer, Tao Jin, and Daniele Finotello
Nonlinear dielectric spectroscopy in the smectic-*A*–smectic-C^*_α phase transition *(9 pages)* 041704
Andika Fajar, Hidetoshi Murai, and Hiroshi Orihara
Interlayer structures of the chiral smectic liquid crystal phases revealed by resonant x-ray scattering *(10 pages)* 041705
L. S. Hirst, S. J. Watson, H. F. Gleeson, P. Cluzeau, P. Barois, R. Pindak, J. Pitney, A. Cady, P. M. Johnson, C. C. Huang, A-M. Levelut, G. Srajer, J. Pollmann, W. Caliebe, A. Seed, M. R. Herbert, J. W. Goodby, and M. Hird
Phase behavior and free interfaces of a lattice-gas nematic-liquid-crystal model *(8 pages)* 041706
Martin A. Bates
Structure and elastic properties of smectic liquid crystalline elastomer films *(11 pages)* 041707
R. Stannarius, R. Köhler, U. Dietrich, M. Lösche, C. Tolksdorf, and R. Zentel
Coil-globule transition for regular, random, and specially designed copolymers: Monte Carlo simulation and self-consistent field theory *(13 pages)* 041708
J. M. P. van den Oever, F. A. M. Leermakers, G. J. Fleer, V. A. Ivanov, N. P. Shusharina, A. R. Khokhlov, and P. G. Khalatur
Defect structure of a nematic liquid crystal around a spherical particle: Adaptive mesh refinement approach *(4 pages)* 041709
Jun-ichi Fukuda, Makoto Yoneya, and Hiroshi Yokoyama
Statistical theory of the compensating effect when anchoring with two orthogonal photoaligned polymers *(10 pages)* 041710
Andrei Th. Ionescu, Emil S. Barna, Giovanni Barbero, and Anca-Luiza Alexe-Ionescu
Annihilation of point defects on a line *(5 pages)* 041711
Robert Holyst and Patrick Oswald
Dynamic light scattering measurements of azimuthal and zenithal anchoring of nematic liquid crystals *(7 pages)* 041712
Mojca Vilfan, Alenka Mertelj, and Martin Čopič

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Nature of the liquid crystalline phase transitions in the cesium pentadecafluorooctanoate–water system: The nematic–to–smectic-*A* transition *(10 pages)* 041713
K. W. Jolley, N. Boden, D. Parker, and J. R. Henderson
Orientational distributions in smectic liquid crystals showing V-shaped switching investigated by polarized Raman scattering *(11 pages)* 041714
Naoki Hayashi, Tatsuhisa Kato, Takayuki Aoki, Tomohiro Ando, Atsuo Fukuda, and S. S. Seomun
Electronic transport in smectic liquid crystals *(13 pages)* 041715
I. Shiyanovskaya, K. D. Singer, R. J. Twieg, L. Sukhomlinova, and V. Gettwert
Deuterium NMR relaxation in the smectic-*A* phase of a chiral smectogen *(7 pages)* 041716
Ronald Y. Dong, L. Chiezzi, and C. A. Veracini
Shear-induced structural changes of a smectic-*A* phase: A computer simulation study *(12 pages)* 041717
G. R. Luckhurst, G. Saielli, and T. J. Sluckin
Disruption of surface-induced smectic order by periodic surface corrugations *(4 pages)* 041718
Ghanshyam P. Sinha, Charles Rosenblatt, and Leonid V. Mirantsev
Photomanipulation of the anchoring strength of a photochromic nematic liquid crystal *(6 pages)* 041719
G. Barbero, L. R. Evangelista, and L. Komitov
uv manipulation of order and macroscopic shape in nematic elastomers *(10 pages)* 041720
P. M. Hogan, A. R. Tajbakhsh, and E. M. Terentjev

Polymers

Unwinding globules under tension and polymer collapse *(5 pages)* 041801
Thomas Frisch and Alberto Verga
Determination of the structure of the organized phase of the block copolymer PEO-PPO-PEO in aqueous solutions under flow by small-angle neutron scattering *(7 pages)* 041802
Christelle Perreur, Jean-Pierre Habas, Jeanne François, Jean Peyrelasse, and Alain Lapp
Elastic critical behavior in a three-dimensional model for polymer gels *(5 pages)* 041803
Emanuela Del Gado, Lucilla de Arcangelis, and Antonio Coniglio
Self-motion and the α relaxation in a simulated glass-forming polymer: Crossover from Gaussian to non-Gaussian dynamic behavior *(12 pages)* 041804
J. Colmenero, F. Alvarez, and A. Arbe
Conformation of a polyelectrolyte complexed to a like-charged colloid *(4 pages)* 041805
René Messina, Christian Holm, and Kurt Kremer
Efficient computation of the structural phase behavior of block copolymers *(5 pages)* 041806
G. Tzeremes, K. Ø. Rasmussen, T. Lookman, and A. Saxena
Computer simulation study on the swelling of a model polymer network by a chainlike solvent *(7 pages)* 041807
Z.-Y. Lu and R. Hentschke

Biological physics

Fluid-membrane tethers: Minimal surfaces and elastic boundary layers *(11 pages)* 041901
Thomas R. Powers, Greg Huber, and Raymond E. Goldstein
Dynamical properties of discrete breathers in curved chains with first and second neighbor interactions *(13 pages)* 041902
M. Ibañes, J. M. Sancho, and G. P. Tsironis
Performance of different synchronization measures in real data: A case study on electroencephalographic signals *(14 pages)* 041903
R. Quian Quiroga, A. Kraskov, T. Kreuz, and P. Grassberger
Statistical properties of contact vectors *(7 pages)* 041904
A. Kabakçioğlu, I. Kanter, M. Vendruscolo, and E. Domany

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Analysis of symbolic sequences using the Jensen-Shannon divergence *(16 pages)* 041905
Ivo Grosse, Pedro Bernaola-Galván, Pedro Carpena, Ramón Román-Roldán, Jose Oliver, and H. Eugene Stanley

Plasticity and learning in a network of coupled phase oscillators *(7 pages)* 041906
Philip Seliger, Stephen C. Young, and Lev S. Tsimring

Force and kinetic barriers to initiation of DNA unzipping *(23 pages)* 041907
Simona Cocco, Rémi Monasson, and John F. Marko

Dynamics of rumor propagation on small-world networks *(9 pages)* 041908
Damián H. Zanette

Identification of coupling direction: Application to cardiorespiratory interaction *(11 pages)* 041909
Michael G. Rosenblum, Laura Cimponeriu, Anastasios Bezerianos, Andreas Patzak, and Ralf Mrowka

Atomic force microscopy of height fluctuations of fibroblast cells *(6 pages)* 041910
Bálint Szabó, Dávid Selmeczi, Zsuzsanna Környei, Emília Madarász, and Noémi Rozlosnik

Grouping of residues based on their contact interactions *(5 pages)* 041911
Jun Wang and Wei Wang

Analytical characterization of adhering vesicles *(9 pages)* 041912
C. Tordeux, J.-B. Fournier, and P. Galatola

Precision and reliability of periodically and quasiperiodically driven integrate-and-fire neurons *(14 pages)* . . . 041913
P. H. E. Tiesinga

Morphological ordering in biopolymers: Informational statistical thermodynamic approach *(11 pages)* 041914
Sergio A. Hassan, Marcus V. Mesquita, Aurea R. Vasconcellos, and Roberto Luzzi

Noise-induced resonances in the Hindmarsh-Rose neuronal model *(6 pages)* 041915
J. P. Baltanás and J. M. Casado

Coupling parameter in synchronization of diluted neural networks *(4 pages)* 041916
Qi Li, Yong Chen, and Ying Hai Wang

Measurements of brain activity complexity for varying mental loads *(7 pages)* 041917
Mukeshwar Dhamala, Giuseppe Pagnoni, Kurt Wiesenfeld, and Gregory S. Berns

Replica symmetric evaluation of the information transfer in a two-layer network in the presence of continuous and discrete stimuli *(11 pages)* 041918
Valeria Del Prete and Alessandro Treves

Zero-temperature properties of RNA secondary structures *(7 pages)* 041919
Enzo Marinari, Andrea Pagnani, and Federico Ricci-Tersenghi

Improved energy model for membrane electroporation in biological cells subjected to electrical pulses *(8 pages)* 041920
R. P. Joshi, Q. Hu, K. H. Schoenbach, and H. P. Hjalmarson

Dynamic light scattering from an optically trapped microsphere *(11 pages)* 041921
N. B. Viana, R. T. S. Freire, and O. N. Mesquita

Modeling of spiking-bursting neural behavior using two-dimensional map *(9 pages)* 041922
Nikolai F. Rulkov

Geometric and statistical properties of the mean-field hydrophobic-polar model, the large-small model, and real protein sequences *(11 pages)* 041923
C. T. Shih, Z. Y. Su, J. F. Gwan, B. L. Hao, C. H. Hsieh, J. L. Lo, and H. C. Lee

Dynamics of large-scale brain activity in normal arousal states and epileptic seizures *(9 pages)* 041924
P. A. Robinson, C. J. Rennie, and D. L. Rowe

Kinetic transition in model proteins with a denatured native spinodal *(5 pages)* 041925
Jun Wang, Ke Fan, and Wei Wang

Memory beyond memory in heart beating, a sign of a healthy physiological condition *(5 pages)* 041926
P. Allegrini, P. Grigolini, P. Hamilton, L. Palatella, and G. Raffaelli

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 65, NUMBER 4 APRIL 2002

Separation quality of a geometric ratchet *(10 pages)* 041927
C. Keller, Florian Marquardt, and C. Bruder

BRIEF REPORTS

Statistical physics of soft matter

Finding transition paths and rate coefficients through accelerated Langevin dynamics *(4 pages)* 042101
L. Y. Chen, S. C. Ying, and T. Ala-Nissila

Granular materials

Adhesion between weakly rough beads *(4 pages)* 042301
F. Restagno, J. Crassous, C. Cottin-Bizonne, and E. Charlaix

Structured and complex fluids

Critical behavior in broad-band dielectric relaxation on approaching the critical consolute point in ethanol-dodecane mixture *(4 pages)* 042501
S. J. Rzoska, K. Orzechowski, and A. Drozd-Rzoska

Films, interfaces, and crystal growth

Cluster persistence of two-dimensional soap froth *(4 pages)* 042601
Wing Yim Tam and Kwok Yip Szeto

Polymers

Two-dimensional copolymers and multifractality: Comparing perturbative expansions, Monte Carlo simulations, and exact results *(4 pages)* 042801
C. von Ferber and Yu. Holovatch

Nonequilibrium pattern formation in the crystallization of polymer blend films *(4 pages)* 042802
Vincent Ferreiro, Jack F. Douglas, James A. Warren, and Alamgir Karim

Analysis of diffusion in a solid polymer electrolyte in the context of a phase-separated system *(4 pages)* 042803
Ludvig Edman, Anders Ferry, and Greger Orädd

PART 2 A

Note to Reader i

RAPID COMMUNICATIONS

General methods of statistical physics

Quasistatic fractures in brittle media and iterated conformal maps *(4 pages)* . . . . . 045101(R)
Felipe Barra, H. George E. Hentschel, Anders Levermann, and Itamar Procaccia

Functional form of the Parisi overlap distribution for the three-dimensional Edwards-Anderson Ising spin glass *(4 pages)* . . . . . 045102(R)
Bernd A. Berg, Alain Billoire, and Wolfhard Janke

Jamming coverage in competitive random sequential adsorption of a binary mixture *(4 pages)* . . . . . 045103(R)
M. Kamrul Hassan, Jürgen Schmidt, Bernd Blasius, and Jürgen Kurths

Multifractal current distribution in random-diode networks *(4 pages)* . . . . . 045104(R)
Haye Hinrichsen, Olaf Stenull, and Hans-Karl Janssen

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Chaos and pattern formation

Coupled map networks as communication schemes *(4 pages)* . . . . . 045201(R)
P. García, A. Parravano, M. G. Cosenza, J. Jiménez, and A. Marcano

Rhythmic bursting in a cluster of microbeads driven by a continuous-wave laser beam *(4 pages)* . . . . . 045202(R)
Nobuyuki Magome, Hiroyuki Kitahata, Masatoshi Ichikawa, Shin-ichiro M. Nomura, and Kenichi Yoshikawa

Bailout embeddings, targeting of invariant tori, and the control of Hamiltonian chaos *(4 pages)* . . . . . 045203(R)
Julyan H. E. Cartwright, Marcelo O. Magnasco, and Oreste Piro

Information transfer and nontrivial collective behavior in chaotic coupled map networks *(4 pages)* . . . . . 045204(R)
L. Cisneros, J. Jiménez, M. G. Cosenza, and A. Parravano

Non-Hermiticity in a kicked model: Decoherence and the semiclassical limit *(4 pages)* . . . . . 045205(R)
Indubala I. Satija and Arjendu K. Pattanayak

Decoherence as decay of the Loschmidt echo in a Lorentz gas *(4 pages)* . . . . . 045206(R)
F. M. Cucchietti, H. M. Pastawski, and D. A. Wisniacki

Global quantitative predictions of complex laser dynamics *(4 pages)* . . . . . 045207(R)
Sebastian Wieczorek, Thomas B. Simpson, Bernd Krauskopf, and Daan Lenstra

Nonlinear hydrodynamics and turbulence

Flow of thin films on patterned surfaces: Controlling the instability *(4 pages)* . . . . . 045301(R)
L. Kondic and J. Diez

Plasma physics

Perturbation transfer from the front to rear surface of laser-irradiated targets *(4 pages)* . . . . . 045401(R)
K. Shigemori, H. Azechi, M. Nakai, T. Endo, T. Nagaya, and T. Yamanaka

Polarization effects and anisotropy in three-dimensional relativistic self-focusing *(4 pages)* . . . . . 045402(R)
N. M. Naumova, S. V. Bulanov, K. Nishihara, T. Zh. Esirkepov, and F. Pegoraro

Dynamic Mach cone as a diagnostic method in reactive dusty plasma experiments *(4 pages)* . . . . . 045403(R)
O. Havnes, T. W. Hartquist, A. Brattli, G. M. W. Kroesen, and G. Morfill

Classical physics, including nonlinear media and photonic materials

Generalized emissivity inverse problem *(4 pages)* . . . . . 045601(R)
DengMing Ming, Tao Wen, XianXi Dai, JiXin Dai, and William E. Evenson

Experimental observation of superluminal pulse reflection in a double-Lorentzian photonic band gap *(4 pages)* . . . . . 045602(R)
S. Longhi, M. Marano, P. Laporta, M. Belmonte, and P. Crespi

Fresnel laws at curved dielectric interfaces of microresonators *(4 pages)* . . . . . 045603(R)
Martina Hentschel and Henning Schomerus

Amplitude coda of classical waves in disordered media *(4 pages)* . . . . . 045604(R)
Mauro S. Ferreira and Gerrit E. W. Bauer

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

REGULAR ARTICLES

General methods of statistical physics

Probabilistic approach to the Bak-Sneppen model *(7 pages)* 046101
G. Caldarelli, M. Felici, A. Gabrielli, and L. Pietronero
Quantum decoherence, Zeno process, and time symmetry breaking *(21 pages)* 046102
T. Petrosky and V. Barsegov
Highway on-ramp control *(5 pages)* 046103
Ding-wei Huang
Simple absorbing-state transition *(9 pages)* 046104
Olivier Deloubrière and Frédéric van Wijland
Trapped interacting Bose gas in nonextensive statistical mechanics *(5 pages)* 046105
B. Tanatar
Ensemble-based control of evolutionary optimization algorithms *(6 pages)* 046106
Axel Reimann and Werner Ebeling
Quantification of heart rate variability by discrete nonstationary non-Markov stochastic processes *(15 pages)* 046107
Renat Yulmetyev, Peter Hänggi, and Fail Gafarov
Monte Carlo simulation of the transmission of measles: Beyond the mass action principle *(6 pages)* 046108
Nouredine Zekri and Jean Pierre Clerc
Multifractal structure of the harmonic measure of diffusion-limited aggregates *(8 pages)* 046109
Mogens H. Jensen, Anders Levermann, Joachim Mathiesen, and Itamar Procaccia
Critical behavior of nonequilibrium phase transitions to magnetically ordered states *(5 pages)* 046110
Thomas Birner, Karen Lippert, Reinhard Müller, Adolf Kühnel, and Ulrich Behn
Finite-size scaling in the steady state of the fully asymmetric exclusion process *(6 pages)* 046111
Jordan Brankov
Dynamical response of an excitatory-inhibitory neural network to external stimulation: An application to image segmentation *(6 pages)* 046112
Sitabhra Sinha and Jayanta Basak
Multiscale dynamics and robust critical scaling in a continuum current sheet model *(5 pages)* 046113
V. M. Uritsky, A. J. Klimas, and D. Vassiliadis
Off-equilibrium response function in the one-dimensional random-field Ising model *(7 pages)* 046114
F. Corberi, A. de Candia, E. Lippiello, and M. Zannetti
Critical structure factors of bilinear fields in O(N) vector models *(16 pages)* 046115
Pasquale Calabrese, Andrea Pelissetto, and Ettore Vicari
Classical kinetical Bose gas *(7 pages)* 046116
Michael Schulz, Steffen Trimper, and Simone Artz
Phase ordering with a global conservation law: Ostwald ripening and coalescence *(13 pages)* 046117
Massimo Conti, Baruch Meerson, Avner Peleg, and Pavel V. Sasorov
Upper bound for the time derivative of entropy for nonequilibrium stochastic processes *(6 pages)* 046118
Bidhan Chandra Bag
Grain boundary pinning and glassy dynamics in stripe phases *(12 pages)* 046119
Denis Boyer and Jorge Viñals
Correlated disordered interactions on Potts models *(7 pages)* 046120
P. T. Muzy, A. P. Vieira, and S. R. Salinas
Correlation functions near modulated and rough surfaces *(14 pages)* 046121
Andreas Hanke and Mehran Kardar
Targeted free energy perturbation *(5 pages)* 046122
C. Jarzynski

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Nonequilibrium dynamics of the complex Ginzburg-Landau equation: Numerical results in two and three dimensions *(9 pages)* 046123
Subir K. Das and Sanjay Puri
Estimating probabilities from experimental frequencies *(9 pages)* 046124
Inés Samengo
Geometrical properties of avalanches in self-organized critical models of solar flares *(12 pages)* 046125
Scott W. McIntosh, Paul Charbonneau, Thomas J. Bogdan, Han-Li Liu, and James P. Norman
Flow properties of driven-diffusive lattice gases: Theory and computer simulation *(11 pages)* 046126
Debashish Chowdhury and Jian-Sheng Wang
Exact multipoint and multitime correlation functions of a one-dimensional model of adsorption and evaporation of dimers *(6 pages)* 046127
Mauro Mobilia
Adaptation and survivors in a random Boolean network *(4 pages)* 046128
Ikuo Nakamura
Statistics of level spacing of geometric resonances in random binary composites *(5 pages)* 046129
Y. Gu, K. W. Yu, and Z. R. Yang
Finite-size effect in the Eguíluz and Zimmermann model of herd formation and information transmission *(6 pages)* 046130
Yanbo Xie, Bing-Hong Wang, Hongjun Quan, Weisong Yang, and P. M. Hui
Average entropy of a subsystem from its average Tsallis entropy *(5 pages)* 046131
L. C. Malacarne, R. S. Mendes, and E. K. Lenzi
Variational theory for thermodynamics of thermal waves *(11 pages)* 046132
Stanislaw Sieniutycz and R. Stephen Berry
Kink production in the presence of random distributed impurities *(4 pages)* 046133
T. Dobrowolski
Remarks about the Tsallis formalism *(5 pages)* 046134
L. Velazquez and F. Guzmán
Relaxation of nonspherical sessile drops towards equilibrium *(8 pages)* 046135
Vadim S. Nikolayev and Daniel A. Beysens
Slow relaxation in the large-N model for phase ordering *(11 pages)* 046136
Federico Corberi, Eugenio Lippiello, and Marco Zannetti
Analysis of the ∞-replica symmetry breaking solution of the Sherrington-Kirkpatrick model *(9 pages)* 046137
A. Crisanti and T. Rizzo
Empirical macroscopic features of spatial-temporal traffic patterns at highway bottlenecks *(30 pages)* 046138
Boris S. Kerner
Universal pulse shape scaling function and exponents: Critical test for avalanche models applied to Barkhausen noise *(6 pages)* 046139
Amit P. Mehta, Andrea C. Mills, Karin A. Dahmen, and James P. Sethna
Roughness distributions for $1/f^{\alpha}$ signals *(12 pages)* 046140
T. Antal, M. Droz, G. Györgyi, and Z. Rácz
Self-organized criticality: Robustness of scaling exponents *(6 pages)* 046141
Jozef Černák
Solvable Markov random field model in color image restoration *(18 pages)* 046142
Kazuyuki Tanaka and Tsuyoshi Horiguchi
Effect of angular momentum on equilibrium properties of a self-gravitating system *(13 pages)* 046143
Olivier Fliegans and D. H. E. Gross
Iterated conformal dynamics and Laplacian growth *(12 pages)* 046144
Felipe Barra, Benny Davidovitch, and Itamar Procaccia
Out-of-equilibrium thermodynamic relations in systems with aging and slow relaxation *(15 pages)* 046145
Mitsuhiro Kawasaki

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Critical behavior of a strain percolation model for metals *(10 pages)* 046146
Y. Shim, L. E. Levine, and R. Thomson
Stable propagation of an ordered array of cracks during directional drying *(7 pages)* 046147
E. A. Jagla
Fracture model with variable range of interaction *(8 pages)* 046148
Raul Cruz Hidalgo, Yamir Moreno, Ferenc Kun, and Hans J. Herrmann
Autoregressive processes with exponentially decaying probability distribution functions: Applications to daily variations of a stock market index *(6 pages)* 046149
Markus Porto and H. Eduardo Roman
Scaling behavior of the order parameter and its conjugated field in an absorbing phase transition around the upper critical dimension *(7 pages)* 046150
S. Lübeck

Chaos and pattern formation

Collective motions in globally coupled tent maps with stochastic updating *(6 pages)* 046201
Satoru Morita and Tsuyoshi Chawanya
Stabilization of stationary excitation pulses in an open flow without long-range inhibition *(10 pages)* 046202
Mads Kærn and Michael Menzinger
Diffusion entropy and waiting time statistics of hard-x-ray solar flares *(13 pages)* 046203
Paolo Grigolini, Deborah Leddon, and Nicola Scafetta
Chaotic scattering in deformed optical microlasing cavities *(5 pages)* 046204
Zonghua Liu and Ying-Cheng Lai
Lorenz-like systems and classical dynamical equations with memory forcing: An alternate point of view for singling out the origin of chaos *(15 pages)* 046205
R. Festa, A. Mazzino, and D. Vincenzi
Effect of colored noises on spatiotemporal chaos in the complex Ginzburg-Landau equation *(5 pages)* 046206
Hongli Wang and Qi Ouyang
Unusual spiral wave tip trajectories in a parametrically forced nonequilibrium system *(6 pages)* 046207
Jysoo Lee, Jinha Kim, Goen-hee Yi, and Kyoung J. Lee
Harmonic forcing of an extended oscillatory system: Homogeneous and periodic solutions *(6 pages)* 046208
Jeenu Kim, Jysoo Lee, and Byungnam Kahng
Measuring the Lyapunov exponent using quantum mechanics *(9 pages)* 046209
F. M. Cucchietti, C. H. Lewenkopf, E. R. Mucciolo, H. M. Pastawski, and R. O. Vallejos
Synchronizing chaotic dynamics with uncertainties based on a sliding mode control design *(7 pages)* 046210
Tao Yang and Hui He Shao
Anderson localized state as a predissipative state: Irreversible emission of thermalized quanta from a dynamically delocalized state *(17 pages)* 046211
Hiroaki Yamada and Kensuke S. Ikeda
Neural networks for estimating intrinsic dimension *(7 pages)* 046212
A. Potapov and M. K. Ali
Synchronization of coupled assemblies of relaxation oscillatory electrode pairs *(9 pages)* 046213
Antonis Karantonis, Yasuyuki Miyakita, and Seiichiro Nakabayashi
Diffusion in a periodically driven damped and undamped pendulum *(9 pages)* 046214
R. Harish, S. Rajasekar, and K. P. N. Murthy
Lyapunov exponents, noise-induced synchronization, and Parrondo's paradox *(4 pages)* 046215
Ljupco Kocarev and Zarko Tasev
Jets, stickiness, and anomalous transport *(16 pages)* 046216
Xavier Leoncini and George M. Zaslavsky
Spectral properties of quantized barrier billiards *(8 pages)* 046217
Jan Wiersig

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Traveling concentric-roll patterns in Rayleigh-Bénard convection with modulated rotation *(4 pages)* 046218
Kim L. Thompson, Kapil M. S. Bajaj, and Guenter Ahlers

Rotating convection in an anisotropic system *(6 pages)* 046219
Alex Roxin and Hermann Riecke

Dynamic separation of chaotic signals in the presence of noise *(6 pages)* 046220
Yuri V. Andreyev, Alexander S. Dmitriev, and Elena V. Efremova

Skew-orthogonal polynomials and random-matrix ensembles *(21 pages)* 046221
Saugata Ghosh and Akhilesh Pandey

Exact, convergent periodic-orbit expansions of individual energy eigenvalues of regular quantum graphs *(10 pages)* 046222
R. Blümel, Y. Dabaghian, and R. V. Jensen

Acceleration effect of coupled oscillator systems *(18 pages)* 046223
Toru Aonishi, Koji Kurata, and Masato Okada

Shock structures and bunching fronts in excitable reaction-diffusion systems *(7 pages)* 046224
Chad T. Hamik and Oliver Steinbock

Limits to the experimental detection of nonlinear synchrony *(5 pages)* 046225
Paul So, Ernest Barreto, Krešimir Josić, Evelyn Sander, and Steven J. Schiff

Decoherence for classically chaotic quantum maps *(12 pages)* 046226
Pablo Bianucci, Juan Pablo Paz, and Marcos Saraceno

Mode locking of spatiotemporally periodic orbits in coupled sine circle map lattices *(13 pages)* 046227
Gauri R. Pradhan, Nandini Chatterjee, and Neelima Gupte

Bifurcations of a semiclassical atom in a periodic field *(12 pages)* 046228
Thomas Pohl, Ulrike Feudel, and Werner Ebeling

Fundamental scaling laws of on-off intermittency in a stochastically driven dissipative pattern-forming system *(13 pages)* 046229
Thomas John, Ulrich Behn, and Ralf Stannarius

Spatial control of a classical electron state in a Rydberg atom by adiabatic synchronization *(8 pages)* 046230
E. Grosfeld and L. Friedland

Generic two-variable model of excitability *(7 pages)* 046231
A. C. Ventura, G. B. Mindlin, and S. Ponce Dawson

Multirhythmicity generated by slow variable diffusion in a ring of relaxation oscillators and noise-induced abnormal interspike variability *(13 pages)* 046232
E. I. Volkov and D. V. Volkov

Slow time evolution of two-time-scale reaction-diffusion systems: The physical origin of nondiffusive transport *(14 pages)* 046233
Damián E. Strier, Ariel Chernomoretz, and Silvina Ponce Dawson

Deriving exact energy solutions to the symmetrized *q*-difference Harper equation *(8 pages)* 046234
E. Papp and C. Micu

Scroll waves in isotropic excitable media: Linear instabilities, bifurcations, and restabilized states *(21 pages)* 046235
Hervé Henry and Vincent Hakim

Dynamical localization in quasiperiodic driven systems *(7 pages)* 046236
G. Abal, R. Donangelo, A. Romanelli, A. C. Sicardi Schifino, and R. Siri

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 65, NUMBER 4 APRIL 2002

Delayed self-synchronization in homoclinic chaos *(4 pages)* 046237
F. T. Arecchi, R. Meucci, E. Allaria, A. Di Garbo, and L. S. Tsimring

PART 2 B

Note to Reader i

Nonlinear hydrodynamics and turbulence

Probabilistic formalism and hierarchy of models for polydispersed turbulent two-phase flows *(18 pages)* 046301
Eric Peirano and Jean-Pierre Minier
Oscillation mode conversion and energy confinement of acoustically agitated bubbles *(7 pages)* 046302
Masanori Sato, Nobunaga Shibuya, Nagaya Okada, Tonshaku Tou, and Toshitaka Fujii
River meandering dynamics *(12 pages)* 046303
Boyd F. Edwards and Duane H. Smith
Numerical study of comparison of vorticity and passive vectors in turbulence and inviscid flows *(12 pages)* 046304
Koji Ohkitani
Lattice-gas model based on field mediators for immiscible fluids *(8 pages)* 046305
L. O. E. dos Santos and P. C. Philippi
Energy-conserving low-order models for three-dimensional Rayleigh-Bénard convection *(11 pages)* 046306
Christopher Tong and Alexander Gluhovsky
Scaling hypothesis leading to generalized extended self-similarity in turbulence *(16 pages)* 046307
Hirokazu Fujisaka, Yasuya Nakayama, Takeshi Watanabe, and Siegfried Grossmann
Discrete lattice effects on the forcing term in the lattice Boltzmann method *(6 pages)* 046308
Zhaoli Guo, Chuguang Zheng, and Baochang Shi
Light emission of sonoluminescent bubbles containing a rare gas and water vapor *(14 pages)* 046309
Dominik Hammer and Lothar Frommhold
Effect of surfactants, polymers, and alcohol on single bubble dynamics and sonoluminescence *(4 pages)* 046310
Muthupandian Ashokkumar, Jingfeng Guan, Rohan Tronson, Thomas J. Matula, John W. Nuske, and Franz Grieser

Plasma physics

Nonlocal electron kinetics and excited state densities in a magnetron discharge in argon *(10 pages)* 046401
I. A. Porokhova, Yu. B. Golubovskii, C. Csambal, V. Helbig, C. Wilke, and J. F. Behnke
Non-neutral plasma column in an asymmetric trapping field *(7 pages)* 046402
Sh. Amiranashvili, M. Y. Yu, and L. Stenflo
Magnetic field generation through angular momentum exchange between circularly polarized radiation and charged particles *(5 pages)* 046403
G. Shvets, N. J. Fisch, and J.-M. Rax
Self-consistent kinetic theory of a plasma sheath *(9 pages)* 046404
Aleksey V. Vasenkov and Bernie D. Shizgal
Spheromak as a relaxed state with minimum dissipation *(6 pages)* 046405
B. Dasgupta, M. S. Janaki, R. Bhattacharyya, P. Dasgupta, T. Watanabe, and T. Sato
Influence of Ar_2^+ in an argon collisional-radiative model *(16 pages)* 046406
Arnaud Bultel, Bruno van Ootegem, Anne Bourdon, and Pierre Vervisch
Electrical conductivity of nonideal carbon and zinc plasmas: Experimental and theoretical results *(11 pages)* 046407
J. Haun, H.-J. Kunze, S. Kosse, M. Schlanges, and R. Redmer
Three-dimensional particle-in-cell simulations of energetic electron generation and transport with relativistic laser pulses in overdense plasmas *(7 pages)* 046408
Y. Sentoku, K. Mima, Z. M. Sheng, P. Kaw, K. Nishihara, and K. Nishikawa

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Plasma instability of a vacuum arc centrifuge *(15 pages)* 046409
M. J. Hole, R. S. Dallaqua, S. W. Simpson, and E. Del Bosco
Electron cooling of high-energy protons in a multiring trap with a tank circuit monitoring the electron-plasma oscillations *(5 pages)* 046410
H. Higaki, N. Kuroda, T. Ichioka, K. Yoshiki Franzen, Z. Wang, K. Komaki, Y. Yamazaki, M. Hori, N. Oshima, and A. Mohri
Analysis of Thomson scattered light from an arc plasma jet *(8 pages)* 046411
G. Gregori, U. Kortshagen, J. Heberlein, and E. Pfender
Time-resolved ion flux measurements in pulsed, electron-beam-generated plasmas *(4 pages)* 046412
S. G. Walton, D. Leonhardt, D. D. Blackwell, R. F. Fernsler, D. P. Murphy, and R. A. Meger
Rotational kinetics of absorbing dust grains in neutral gas *(9 pages)* 046413
A. M. Ignatov, S. A. Trigger, S. A. Maiorov, and W. Ebeling
Possibility of an unequivocal test of different models of the equation of state of aluminum in the coupling regime $\Gamma \sim 1$–50 *(4 pages)* 046414
François Perrot, M. W. C. Dharma-wardana, and John Benage
Dynamics of self-trapped singular beams in an underdense plasma *(6 pages)* 046415
V. I. Berezhiani, S. M. Mahajan, Z. Yoshida, and M. Pekker
Stability of particle arrangements in a complex plasma *(4 pages)* 046416
S. V. Vladimirov and A. A. Samarian
Statistical effects in the multistream model for quantum plasmas *(5 pages)* 046417
Dan Anderson, Björn Hall, Mietek Lisak, and Mattias Marklund
X-ray emission of a xenon gas jet plasma diagnosed with Thomson scattering *(5 pages)* 046418
C. Chenais-Popovics, V. Malka, J.-C. Gauthier, S. Gary, O. Peyrusse, M. Rabec-Le Gloahec, I. Matsushima, C. Bauche-Arnoult, A. Bachelier, and J. Bauche
Parameters and equilibrium profiles for large-area surface-wave sustained plasmas *(11 pages)* 046419
I. B. Denysenko, A. V. Gapon, N. A. Azarenkov, K. N. Ostrikov, and M. Y. Yu

Physics of beams

Nonlinear electrostatic emittance compensation in kA, fs electron bunches *(7 pages)* 046501
S. B. van der Geer, M. J. de Loos, J. I. M. Botman, O. J. Luiten, and M. J. van der Wiel
Acceleration element for femtosecond electron pulse compression *(7 pages)* 046502
Bao-Liang Qian and Hani E. Elsayed-Ali
Self-amplified coherent spontaneous emission in the planar wiggler free-electron laser *(10 pages)* 046503
B. W. J. McNeil and G. R. M. Robb
Trapping, compression, and acceleration of an electron bunch in the nonlinear laser wakefield *(9 pages)* 046504
Arsen G. Khachatryan
Nonlinear quantum regime of the x-ray Compton laser *(8 pages)* 046505
H. K. Avetissian and G. F. Mkrtchian

Classical physics, including nonlinear media and photonic materials

Canonical Hamiltonian formulation of the nonlinear Schrödinger equation in a one-dimensional, periodic Kerr medium *(10 pages)* 046601
Suresh Pereira and J. E. Sipe
Transition between ground state and metastable states in classical two-dimensional atoms *(13 pages)* 046602
Minghui Kong, B. Partoens, and F. M. Peeters
Speckle experiments in random lasers *(5 pages)* 046603
Gijs van Soest, Frank J. Poelwijk, and Ad Lagendijk
Orientational discrete breathers in hydrogen-bonded chains *(10 pages)* 046604
Julia M. Khalack and M. J. Velgakis

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Classical versus quantum structure of the scattering probability matrix: Chaotic waveguides *(8 pages)* 046605
G. A. Luna-Acosta, J. A. Méndez-Bermúdez, P. Šeba, and K. N. Pichugin
Two-dimensional clusters of solitary structures in driven optical cavities *(11 pages)* 046606
Andrei G. Vladimirov, John M. McSloy, Dmitry V. Skryabin, and William J. Firth
Superluminal pulse propagation through one-dimensional photonic crystals with a dispersive defec
t *(8 pages)* 046607
Nian-hua Liu, Shi-Yao Zhu, Hong Chen, and Xiang Wu
Self-interference between forward and backward propagating parts of a single acoustic plate mode
(3 pages) 046608
M. Germano, A. Alippi, M. Angelici, and A. Bettucci
Exact calculation of the angular momentum loss, recoil force, and radiation intensity for an arbitrary source in
terms of electric, magnetic, and toroid multipoles *(47 pages)* 046609
E. E. Radescu and G. Vaman
Measurement of superluminal optical tunneling times in double-barrier photonic band gaps *(6 pages)* 046610
S. Longhi, P. Laporta, M. Belmonte, and E. Recami
Diffraction by a small aperture in conical geometry: Application to metal-coated tips used in near-field
scanning optical microscopy *(8 pages)* 046611
A. Drezet, J. C. Woehl, and S. Huant
Local optical density of states in finite crystals of plane scatterers *(12 pages)* 046612
Martijn Wubs and A. Lagendijk
Continuum approach to discreteness *(13 pages)* 046613
P. G. Kevrekidis, I. G. Kevrekidis, A. R. Bishop, and E. S. Titi
Interaction of ***N*** solitons in the massive Thirring model and optical gap system: The complex Toda chain
model *(10 pages)* 046614
V. S. Shchesnovich
X-ray diffraction study of Anodisc filters *(7 pages)* 046615
Michael R. Fisch, Andrew Primak, and Satyendra Kumar
Magnetic-field-induced control of breather dynamics in a single plaquette of Josephson junctions
(4 pages) 046616
M. V. Fistul, S. Flach, and A. Benabdallah
Two-frequency mutual coherence function and pulse propagation in random media *(11 pages)* 046617
Gregory Samelsohn and Valentin Freilikher
Self-interaction near dielectrics *(5 pages)* 046618
Lior M. Burko
Exact discrete compactlike traveling kinks and pulses in ϕ^4 nonlinear lattices *(5 pages)* 046619
J. C. Comte
Patterns arising from the interaction between scalar and vectorial instabilities in two-photon resonant Kerr
cavities *(9 pages)* 046620
Miguel Hoyuelos, Daniel Walgraef, Pere Colet, and Maxi San Miguel
Symmetry broken motion of a periodically driven Brownian particle: Nonadiabatic regime *(4 pages)* 046621
M. V. Fistul
Optically realizable localized wave solutions of the homogeneous scalar wave equation *(7 pages)* 046622
Kaido Reivelt and Peeter Saari
Theory of critical enhancement of photorefractive beam coupling *(11 pages)* 046623
E. V. Podivilov, B. I. Sturman, M. V. Gorkunov, V. P. Kamenov, and K. H. Ringhofer

Computational physics

Implementation of the hierarchical reference theory for simple one-component fluids *(13 pages)* 046701
Albert Reiner and Gerhard Kahl

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 65, NUMBER 4 APRIL 2002

Latent heat calculation of the three-dimensional $q=3$, 4, and 5 Potts models by the tensor product variational approach *(7 pages)* 046702
A. Gendiar and T. Nishino
Three-body bound-state calculations by the Lagrange-mesh method: Selection of a coordinate system *(12 pages)* 046703
M. Hesse
Modeling continuous processes from data *(11 pages)* 046704
Michael Small, Kevin Judd, and Alistair Mees
Bound state properties of the ground states in the DT^+ and T_2^+ ions *(7 pages)* 046705
Alexei M. Frolov

BRIEF REPORTS

General methods of statistical physics

Influence of extended dynamics on phase transitions in a driven lattice gas *(3 pages)* 047101
Attila Szolnoki and György Szabó
Noncollapsing solution below r_c for a randomly forced particle *(3 pages)* 047102
L. Anton
Improved stability bound for steady-state flow in a car-following model of road traffic on a circular route *(3 pages)* 047103
H. J. C. Huijberts
Phase ordering on small-world networks with nearest-neighbor edges *(4 pages)* 047104
H. Hong, M. Y. Choi, and Beom Jun Kim

Chaos and pattern formation

Computing with excitable systems in a noisy environment *(4 pages)* 047201
M. C. Eguia, S. Ponce Dawson, and G. B. Mindlin
Generalized synchronization in directionally coupled systems with identical individual dynamics *(4 pages)* 047202
J. M. González-Miranda
Quantum dispersion and its exponential growth of a wave packet in chaotic systems *(4 pages)* 047203
Li Junqing, Liu Fang, Xing YongZhong, Zuo Wei, and W. D. Heiss
$\hbar\rightarrow 0$ and classical-quantum correspondence in the kicked Harper model *(4 pages)* 047204
Indubala I. Satija and Tomaž Prosen

Nonlinear hydrodynamics and turbulence

Time behavior of the secondary flow between time-periodically corotating cylinders: A two-frequency forcing case *(4 pages)* 047301
P. Ern and J.-E. Wesfreid
Wavy stripes and squares in zero-Prandtl-number convection *(4 pages)* 047302
Pinaki Pal and Krishna Kumar

Plasma physics

Current-sheet formation in incompressible electron magnetohydrodynamics *(4 pages)* 047401
V. P. Ruban
Self-trapping of strong electromagnetic beams in relativistic plasmas *(4 pages)* 047402
V. I. Berezhiani, S. M. Mahajan, Z. Yoshida, and M. Ohhashi

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 65, NUMBER 4** **APRIL 2002**

Space- and time-resolved density measurements of a high-intensity laser-produced plasma for x-ray laser studies *(4 pages)* 047403
S. Dobosz, P. D'Oliveira, S. Hulin, P. Monot, F. Réau, and T. Auguste

Classical physics, including nonlinear media and photonic materials

β factor in a random laser *(4 pages)* 047601
Gijs van Soest and Ad Lagendijk

Newton's laws of motion in the form of a Riccati equation *(4 pages)* 047602
Marek Nowakowski and Haret C. Rosu

Computational physics

Numerical analysis of the master equation *(4 pages)* 047701
Ronald Dickman

COMMENTS

Comment on ''Scaling behavior in explosive fragmentation'' *(1 page)* 048101
J. A. Åström, R. P Linna, and J. Timonen

Reply to ''Comment on 'Scaling behavior in explosive fragmentation' '' *(2 pages)* 048102
A. Diehl, J. S. Andrade, Jr., and G. A. Farias

ERRATA

Erratum: Generalization of super-transition-array methods to hot dense plasmas by using optimum independent particle reference systems [Phys. Rev. E. **65**, 016403 (2002)] *(1 page)* . . . . . 049901(E)
G. Faussurier, Brian G. Wilson, and Mau Hsiung Chen

Erratum: Population coding in neuronal systems with correlated noise [Phys. Rev. E **64**, 051904 (2001)] *(1 page)* . . . . . 049902(E)
Haim Sompolinsky, Hyoungsoo Yoon, Kukjin Kang, and Maoz Shamir

Cumulative Author Index iii